

§ 23.731

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there is a manual shutoff for the warning device prescribed in this paragraph, the warning system must be designed so that when the warning has been suspended after one or more throttles are closed, subsequent retardation of any throttle to, or beyond, the position for normal landing approach will activate the warning device.

(2) A device that functions continuously when the wing flaps are extended beyond the maximum approach flap position, using a normal landing procedure, if the landing gear is not fully extended and locked. There may not be a manual shutoff for this warning device. The flap position sensing unit may be installed at any suitable location. The system for this device may use any part of the system (including the aural warning device) for the device required in paragraph (f)(1) of this section.

(g) *Equipment located in the landing gear bay.* If the landing gear bay is used as the location for equipment other than the landing gear, that equipment must be designed and installed to minimize damage from items such as a tire burst, or rocks, water, and slush that may enter the landing gear bay.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23–7, 34 FR 13091, Aug. 13, 1969; Amdt. 23–21, 43 FR 2318, Jan. 1978; Amdt. 23–26, 45 FR 60171, Sept. 11, 1980; Amdt. 23–45, 58 FR 42164, Aug. 6, 1993; Amdt. 23–49, 61 FR 5166, Feb. 9, 1996]

§ 23.731 Wheels.

(a) The maximum static load rating of each wheel may not be less than the corresponding static ground reaction with—

- (1) Design maximum weight; and
- (2) Critical center of gravity.

(b) The maximum limit load rating of each wheel must equal or exceed the maximum radial limit load determined under the applicable ground load requirements of this part.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23–45, 58 FR 42165, Aug. 6, 1993]

§ 23.733 Tires.

(a) Each landing gear wheel must have a tire whose approved tire ratings (static and dynamic) are not exceeded—

(1) By a load on each main wheel tire) to be compared to the static rating approved for such tires) equal to the corresponding static ground reaction under the design maximum weight and critical center of gravity; and

(2) By a load on nose wheel tires (to be compared with the dynamic rating approved for such tires) equal to the reaction obtained at the nose wheel, assuming the mass of the airplane to be concentrated at the most critical center of gravity and exerting a force of 1.0 W downward and 0.31 W forward (where W is the design maximum weight), with the reactions distributed to the nose and main wheels by the principles of statics and with the drag reaction at the ground applied only at wheels with brakes.

(b) If specially constructed tires are used, the wheels must be plainly and conspicuously marked to that effect. The markings must include the make, size, number of plies, and identification marking of the proper tire.

(c) Each tire installed on a retractable landing gear system must, at the maximum size of the tire type expected in service, have a clearance to surrounding structure and systems that is adequate to prevent contact between the tire and any part of the structure of systems.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23–7, 34 FR 13092, Aug. 13, 1969; Amdt. 23–17, 41 FR 55464, Dec. 20, 1976; Amdt. 23–45, 58 FR 42165, Aug. 6, 1993]

§ 23.735 Brakes.

(a) Brakes must be provided. The landing brake kinetic energy capacity rating of each main wheel brake assembly must not be less than the kinetic energy absorption requirements determined under either of the following methods:

(1) The brake kinetic energy absorption requirements must be based on a conservative rational analysis of the sequence of events expected during landing at the design landing weight.

(2) Instead of a rational analysis, the kinetic energy absorption requirements for each main wheel brake assembly may be derived from the following formula:

$$KE=0.0443\text{ WV}^2/N$$